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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/756,782

01/13/2004

John U. Knickerbocker

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EXAMINER

BLEVINS, JERRY M

ART UNIT

PAPER NUMBER

2883

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/756,782

Applicant(s)

KNICKERBOCKER ET AL.

Examiner

Jerry Martin Blevins

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2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-19 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/089)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-7 and 20 have been considered but are moot in view of the new ground(s) of rejection.

Specifically, applicants argue that applied prior art reference to US Patent to Basavanhally et al., number 5,185,846, fails to teach the newly added limitation that the multilayer wafer body has three or more layers. Examiner admits that Basavanhally discloses a multilayer wafer body having two layers. However, examiner contends that applicants have not demonstrated how the presence of a third or subsequent layers performs any relevant functionality beyond that of the two-layered structure of the prior art. Furthermore, examiner contends that applicants have failed to demonstrate how the claimed structure is patentably distinct from that of the prior art, since the presence of any additional layers, without recitation of unexpected and advantageous results from their inclusion, serves only as the mere duplication of the essential working parts of the device of Basavanhally.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basavanhally.

Regarding claim 1, Basavanhally teaches a ferrule for an optical fiber connector (Figure 3) comprising a multilayer (layers 14 and 15) ceramic or silicon wafer body (column 2, lines 34-52) having at least a top layer (14) and a bottom layer (15), front and rear and opposed sides (Figure 3, unnumbered), and a plurality of optical fiber through openings (17,18) extending through the body from the top layer to the bottom layer (Figure 3) for holding individual optical fibers (13). Basavanhally does not teach that the wafer body has three or more layers. It would have been obvious to one of ordinary skill in the art at the time of the invention to include three or more layers in the wafer body of Basavanhally, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the Art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. The motivation would have been to increase the level of support for the optical fibers.

Regarding claims 6 and 7, Basavanhally teaches that the through openings are made by etching (column 2, lines 34-52).

Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basavanhally in view of US Pre Grant Publication to Hengelmolen, number 2004/0161205.

Regarding claim 2, Basavanhally renders obvious the limitations of the base claim 1. Basavanhally does not teach alignment pin through openings extending

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through the body between the top and the bottom. Hengelmolen teaches alignment pin through openings (Figures 1 and 2, element 10a) extending through the body between the top and the bottom. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the alignment pin through openings of Hengelmolen in the ferrule of Basavanhally. The motivation would have been to improve alignment with respect to another ferrule (Hengelmolen, page 2, paragraph 25).

Regarding claim 3, Basavanhally renders obvious the limitations of the base claim 1. Basavanhally does not teach that the optical fiber through openings are tapered. Hengelmolen teaches tapered optical fiber through openings (Figure 2, taper section 10g and page 2, paragraph 29). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the tapered optical fiber through openings of Hengelmolen in the ferrule of Basavanhally. The motivation would have been to improve insertion efficiency (Hengelmolen, page 2, paragraph 22).

Regarding claim 4, Basavanhally renders obvious the limitations of the base claim 1. Basavanhally does not teach that the optical fiber through openings are tapered at the entrance end of the opening. Hengelmolen teaches optical fiber through openings tapered at the entrance of the opening (Figure 2, taper section 10g tapered at entrance end 10e and page 2, paragraph 29). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the optical fiber through openings tapered at the entrance of the opening of Hengelmolen in the ferrule of Basavanhally. The motivation would have been to improve insertion efficiency (Hengelmolen, page 2, paragraph 22).

Regarding claim 5, Basavanhally renders obvious the limitations of the base claim 1. Basavanhally does not teach that the optical fiber through openings are wider at the entrance end of the opening. Hengelmolen teaches optical fiber through openings, which are wider at the entrance end of the opening (Figure 2, taper section 10g and page 2, paragraph 29 which explicitly teaches that entrance end 10e is wider than guide section 10d). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the optical fiber through openings, which are wider at the entrance end of the opening, of Hengelmolen in the ferrule of Basavanhally. The motivation would have been to improve insertion efficiency (Hengelmolen, page 2, paragraph 22).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basavanhally in view of US Patent to Sizer, II et al., number 5,345,529.

Regarding claim 20, Basavanhally renders obvious the limitations of the base claim 1. Basavanhally does not teach a molded support to hold a portion of optical fibers extending from the ferrule. Sizer teaches a ferrule (Figure 2D, element 230) comprising a support (Figure 2D, support plate 201) to hold a portion of optical fibers (Figure 2D, elements 210 and 220) extending from the ferrule (Figure 2D and column 2, lines 31-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the support of Sizer in the ferrule of Basavanhally. The motivation would have been to improve the precision of the mounting of the fibers (Sizer, abstract).

Allowable Subject Matter

Claims 8-19 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 8, US Pre Grant Publication to Dautartus et al., number 2003/0095759, teaches a method for making a ferrule (Figure 1A, element 120) for an optical fiber connector (page 3, paragraph 39) comprising the steps of: forming a plurality of greensheets from ceramic material (page 3, paragraph 39), stacking the plurality of greensheets together to a desired thickness having a top, bottom, front and rear sides and opposed sides (Figure 1A and page 3, paragraph 39), laminating the stack (page 3, paragraph 39), and sintering (firing) the laminating stack to form an optical connector ferrule (page 3, paragraph 39). Dautartus does not teach the step of forming optical fiber through openings in the stack extending through the top layer to the bottom layer in the desired pattern. Furthermore, Dautartus, either alone or in combination with the other prior art of record, does not disclose or render obvious the step of forming optical fiber through openings in the stack extending through the top layer to the bottom layer in the desired pattern.

Claims 9-15 are allowed based on dependence from allowed base claim 8.

Regarding claim 16, Dautartus teaches a method for making a ferrule (Figure 1A, element 120) for an optical fiber connector (page 3, paragraph 39) comprising the steps of: forming a plurality of ferrule layers from a ceramic material greensheet (page 3, paragraph 39), stacking the ferrule layers to a desired thickness having a top, bottom,

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front and rear sides and opposed sides (Figure 1A and page 3, paragraph 39), and securing the layers to hold the stack together (by laminating and firing, page 3, paragraph 39). Dautartus does not teach the step of forming optical fiber through openings in the stack extending through the top layer to the bottom layer in the desired pattern. Furthermore, Dautartus, either alone or in combination with the other prior art of record, does not disclose or render obvious the step of forming optical fiber through openings in the stack extending through the top layer to the bottom layer in the desired pattern.

Claims 17-19 are allowed based on their dependence from allowed base claim 16.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Martin Blevins whose telephone number is 571-272-8581. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMB


BRIAN HEALY
PRIMARY EXAMINER